

**LOGIC AND ANALYSIS COURSE  
TEACHER'S MANUAL**

**By  
Jon Rappoport**

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## INTRODUCTION

First of all, I want to make it very clear that you, the teacher, can always contact me with questions about this Course. [qjrpress@gmail.com](mailto:qjrpress@gmail.com).

Also note: This Course comes with six MP3 audio files. More about the MP3s in this introduction.

I realize that, as you study this material and master it, you may want clarification on a point or two. It's important that you teach the course with a clear understanding of its content.

There are two basic ways to teach logic and analytical thinking. You can examine simple examples of traditional logical fallacies; or you can confront realistic passages of text that contain illogical thinking.

I have chosen both ways.

The first two classroom sessions examine examples of common logical fallacies—and then in the next 14 sessions, students directly confront passages of text that contain various errors in reasoning.

The last two sessions of the Course are the final exam and the dissection of the exam by the teacher.

The total number of classroom sessions is 18.

The experience of this Course equips the student for real life, and sharpens skills that will be needed in many academic courses and situations where understanding, analyzing, and evaluating information are vital.

In later lessons of the Course, I've chosen to use passages of text that resemble material the student encounters while reading newspapers, books, and articles.

By the time the student has worked on all these passages, he/she will be ready for a final exam. The exam tests the ability to describe, in writing, the flaws in a new passage.

The teacher should master the materials before attempting to instruct the class. The accompanying six MP3 audio files are part of those materials.

After the classroom sessions, the student should be able to achieve the prime goals of the course:

THE ABILITY TO RECOGNIZE THERE IS A DIFFERENCE BETWEEN LOGICAL AND ILLOGICAL THINKING;

THE ABILITY TO IDENTIFY LOGICAL FLAWS IN WRITTEN MATERIAL.

This course is created to engage the student, to motivate and inspire the student, so that he/she wants to discover more about a rational approach to written, oral, and visual material.

At the same time, the course isn't meant to challenge personal spiritual beliefs. In fact, the student will become more confident in his/her beliefs.

In the marketplace of ideas, there is fierce competition. Armed with the ability to analyze points of view and presentations and arguments, the student will thrive, rather than surrender.

**This course has a core, and that core is six long passages of text. Each passage is challenging. With the help of the teacher, the student learns to break down these passages and discover their errors. These six core passages are tackled in classroom sessions 5-16.**

**Working on each core passage for two classroom sessions, the students will feel they are climbing a mountain. When they are done with the course, they will know they have really accomplished something. This is very, very important. The students must know they have met and overcome challenges. I can't emphasize that too strongly.**

*You want your students to emerge from the course and say, "Wow, that was tough, but I did it!"*

In the end, the goal is met. The students feel like veterans who have been through something and won. And they are right; they have achieved a real victory.

The six audio files are very important, because I dissect all six core passages of text. I go through the whole job of finding all the logical mistakes. You should listen to each audio file several times and make notes.

Remember—these passages are not meant to be examples of logical thinking. They are full of holes, just like material students will encounter in real life.

*Lessons 1 through 4:*

In classroom sessions 1-4, students are taught to spot logical errors in very short paragraphs or single sentences.

*Next, Lesson 5:*

In lesson five you have the students read the *first core passage* to themselves. That's step one.

Then you read it out loud. The whole passage.

Then you lead a discussion, where students tell you what errors they see in the passage. You want to draw the students out on this. You, the teacher, are not making any suggestions or telling them what's wrong with the passage. They have

to tell you. You accept all their answers. You can write them down on the blackboard.

In this session, the only thing you insist on is that the students come up with SPECIFICS. You don't want, "The whole thing is wrong," or "It's vague," or "It doesn't make sense."

That's the whole fifth lesson. The students talk, you listen. You keep them looking for and finding errors.

Their homework is to keep reading the passage and writing down specific errors they find. You tell them that the final exam is going to be this sort of work... —in the final exam, you'll give them a passage they've never seen before, and you'll have them write out all the logic errors they find—so they better get used to doing it now in their homework assignments.

#### *Lesson 6:*

Then, in the sixth lesson, you begin by collecting the homework. You will read their work after this session and make comments on it and give it back in the next (seventh) session.

Now, in the rest of the sixth session, you explain to them everything that's wrong with the first passage. If you want to, you can play the portion of the audio file where I explain it. You make sure they are taking notes.

There will be some discussion as you (and I) explain what's wrong with the first passage. That's fine. But you want to guide your students, you want to focus them on the specific errors in the passage. This is where they really learn something new.

#### *Lessons 7 & 8, and, Lessons 9 through 16:*

In lesson seven, you give them a new core passage, *passage number two*, and the whole process is repeated. What you did in lessons five and six, you do in lessons seven and eight.

What you did in lessons five and six, and, in lessons seven and eight, you do in lessons 9 through 16... all the way to the final exam (in lessons 17 and 18).

Lessons 5 & 6:	Core passage number 1	LAC core passage 1.mp3
Lessons 7 & 8:	Core passage number 2	LAC core passage 2.mp3
Lessons 9 & 10:	Core passage number 3	LAC core passage 3.mp3
Lessons 11 & 12:	Core passage number 4	LAC core passage 4.mp3
Lessons 13 & 14:	Core passage number 5	LAC core passage 5.mp3
Lessons 14 & 15:	Core passage number 6	LAC core passage 6.mp3

This is the course. It's very direct.

Understand this. I've made these six core passages tough. They aren't a walk in the park. They each contain multiple errors. Just like in real life.

Here we go. Buckle up. You're the teacher, and you're going to give your students something so important and vital, they'll remember it and use it for the rest of their lives.

I wish you every success!

JON RAPPOPORT

## CLASSROOM SESSION 1

Today, we are going to study two common errors in thinking. The first error is VAGUE GENERALIZATION. A vague generalization is a statement that covers a wide range and isn't clear.

Example: All students need to believe.

What does it mean? We don't know. All students need to believe what? We aren't told.

Example: Cities are dangerous.

All cities or just some cities? Dangerous how? We aren't told.

Example: The world is good.

The whole world? Is every place in the world good? What does good mean?

Here are some generalizations. Which ones are vague and which ones are specific?

Gold is everywhere.

Senators are busy.

People dream.

All nations are vulnerable.

Toyota has recalled two million cars for brake repairs.

Answer: All statements except the last one are vague. Discuss.

Give me an example of a generalization that is vague. (Have students think up examples. Write them down on the blackboard. Discuss why each one is or isn't a vague generalization.)

A vague generalization is a logical error because it is vague, and also because it can lead to more errors in thinking, when it is the basis of an argument. An argument is a sequence of sentences designed to prove a point.

Example: Ghosts walk among us. Joe is no longer alive. Therefore, Joe walks among us.

Explanation: "Ghosts walk among us" is vague. We don't know how "ghost" is being defined. Is it every person who is no longer alive? We aren't told. Are ghosts real? And is Joe a ghost? Vague. The whole argument is vague.

Example: The nation needs a financial fix. Who can provide it? The government. The government should fix the economy.

This argument has several problems. The first problem is the phrase “financial fix.” What exactly does it mean? We aren’t told. And what is “the nation” referring to here? Every person in the nation? Certain banks? “The nation needs a financial fix” is, therefore, vague. So how can we understand or judge the rest of the argument? We can’t. A vague generalization sets the stage for a shaky argument.

Example: Everything is bad.

What does “everything” mean? What does “bad” mean? The whole generalization is vague.

This leads us to the next, related logical error: VAGUE TERM. This is a word or phrase that has an unclear meaning. We’ve just identified a few. When a vague term is dropped into the middle of an argument, it muddies the water. We lose track of what is being said.

Example: The government must help us in every way it can.

What are the vague terms in that sentence?

Get answers from the students. Discuss.

Explanation: Two vague terms are “help” and “every”. We don’t know what they mean. Does help include giving every citizen a new car? Does it include free health care? Does it include tax cuts? Does it include raising taxes so the government can spend the tax money on new roads? We don’t know. Does “every” mean giving 300 million people toasters? Giving 300 million people tickets to a concert? A loaf of bread?

Example: The history of the world is the history of the master-slave relationship.

What are the vague terms in that sentence?

Get students to answer. Discuss.

Explanation: The vague terms are “history” and “master-slave relationship”. How much does “history” cover? Every single event in the past? What exactly is the “master-slave relationship”? We have some idea, but we’re not sure. It’s never defined.

Have the students offer some examples of vague terms in sentences. Discuss.

Example: Although he resigned from the presidency, Richard Nixon was a brilliant thinker.”

We don’t know what “brilliant” and “thinker” mean here. We feel we have an idea, but the terms aren’t spelled out. They aren’t explained. They’re vague.

Use any remaining class time to have students come up with vague generalizations and vague terms.



Emphasize that these two logical errors poison the well. When they are part of an argument, they render the argument useless.

Here are more examples of vague generalizations and vague terms you can use.

We're all hurting.

Science is always right.

Never cross a road.

News is boring.

History doesn't make sense.

Officials denied the report.

Things couldn't be better.

Water is everywhere.

If it's on the news, it's true.

Scientists tell us we're getting smarter.

There is a lot of hope.

Groups are more important than individuals.

## CLASSROOM SESSION 2

Today, we are going to examine several different errors in reasoning. An argument is a chain of statements that are laid out in sequence to prove a point. Sometimes, during that sequence, errors in thinking are made. These are logical errors.

Example: Humans walk on two legs. A blue jay walks on two legs. Therefore, a blue jay is a human.

What's wrong with that?

Discuss.

Explanation: Even though humans walk on two legs, that doesn't mean that all creatures who walk on two legs are human. You can't decide that humans are blue jays because humans and blue jays walk on two legs.

Example: If it rains, there are clouds. There are clouds. Therefore, it is raining.

What's wrong with this reasoning?

Discuss.

Explanation: It's true that every time it rains there are clouds. However, you can have cloudy days and no rain.

Is this an error? All men have blue eyes. I am a man. Therefore, I have blue eyes.

Discuss.

Explanation. This is tricky. The first statement is false. All men do not have blue eyes. But the reasoning is valid. If all men did have blue eyes... and if I am a man, then I do have blue eyes. So you can have correct reasoning whether or not the first statement is true.

Example: Every car has three front headlights. A Ford is a car. Therefore, a Ford has three front headlights. FALSE FIRST STATEMENT, CORRECT REASONING.

Example: All trees produce red flowers. I have a tree in my yard. Therefore, it produces red flowers. FALSE FIRST STATEMENT, CORRECT REASONING.

Point out to the class that when they read a passage, they may find the reasoning is correct, but the foundation, the first statement, may be false. So in that case, the whole argument is flawed and useless, even though the reasoning process was correct.

Try this example of reasoning: If it rains, there are clouds. It isn't raining. Therefore, there aren't clouds.

Is the reasoning correct? Discuss.

Explanation: The reasoning is incorrect. Even though it isn't raining, the sky could be full of clouds.

Now let's look at several possibilities side by side, using the same first statement.

If it is raining, there are clouds. It is raining. Therefore, there are clouds. CORRECT.

If it is raining, there are clouds. It isn't raining. Therefore, we don't know whether there are clouds. There might be clouds. There might not be clouds. CORRECT.

If it is raining, there are clouds. There are clouds. Therefore, we don't know whether it is raining. Sometimes, when there are clouds, there is rain, and sometimes there is no rain. CORRECT.

If it is raining, there are clouds. There are no clouds. Therefore, it isn't raining. Based on the first statement, every time it rains there are clouds. If there are no clouds, it can't be raining. CORRECT.

How about this example? If Swine Flu is an epidemic, many people around the world are dying. Many people around the world are dying. Therefore, Swine Flu is an epidemic.

Wrong.

Many people around the world could be dying from causes other than Swine Flu.

Example: If a very powerful earthquake hit in the middle of Los Angeles, many people there would experience fear. Many people in the middle of Los Angeles are experiencing fear. Therefore, there was a powerful earthquake in the middle of Los Angeles.

Wrong. Many people in the middle of Los Angeles could be experiencing fear as the result of, say, a huge automobile accident or a burst gas pipe in the street or three tigers who escaped from the zoo.

Example: Every person who works for the government in Washington DC is trying to do a good job. John Jones works in Washington and he is trying to do a good job. Therefore, he must be working for the government.

Wrong. John Jones could be working for a private company and trying to do a good job.

Also, it's important to know that "trying to do a good job" is a rather vague term. We aren't completely sure what it means. So even if the reasoning in the whole argument were correct, the information we would be getting from it would be shaky and not useful.

Discuss that last point.

For the remainder of the class session, discuss the following examples of reasoning:

If a person has the flu, he is sick. Joe has the flu. Therefore, he is sick. CORRECT.

If a person has the flu, he is sick. Joe is sick. Therefore, he has the flu. INCORRECT.

If a person has the flu, he is sick. Joe doesn't have the flu. Therefore, he isn't sick. INCORRECT.

If a person has the flu, he is sick. Joe isn't sick. Therefore, he doesn't have the flu. CORRECT.

Here are more examples. These are optional.

All birds are animals. Mike, the parrot, is a bird. Therefore, Mike is an animal. CORRECT.

If tigers are to survive, they must hunt. Tigers hunt. Therefore, they survive. INCORRECT.

If tigers are to survive, they must hunt. Three tigers didn't survive. Therefore, they didn't hunt. INCORRECT.

If tigers are to survive, they must hunt. Three tigers didn't hunt. Therefore, they didn't survive. CORRECT.

### **CLASSROOM SESSION 3**

Tell the class that in this session, they'll begin to analyze passages of text. The passages are short, and they all contain multiple logical errors. These may be errors that were discussed in the first two classroom sessions, or they may be other errors. The whole idea is for students to point out any errors they see. Don't worry about whether they were discussed in previous lessons.

As the teacher, you'll lead classroom discussions of each passage before revealing what the errors are.

**PASSAGE:** Some say the wisest people who ever walked the face of the Earth were the ancient Himalayans. Many of them lived for over a hundred years. They governed their societies with a gentle touch. They developed their own systems of physical exercise. Now these exercises are available to you, so you can live a longer and healthier life.

**EXPLANATION:** Questionable assumption. Were the ancient Himalayans very wise? Where is the evidence? It's not presented. And what does "wise" mean? Use of a vague word. How do we know they lived such long lives? Lack of supporting evidence. Vague statement about how they governed. Where is the evidence they actually developed their own systems of physical exercise? How do we know the exercises being offered come from ancient Himalaya, or that they will give us a longer and healthier life? The whole presentation is quite vague. It's an attempt to paint a rosy picture.

**PASSAGE:** Cooperation is the best strategy for solving a group problem. A hundred people meet for that purpose. Ninety-four people eventually agree on a particular solution. They cooperate. The other six people have different solutions. They are not cooperating. Therefore, their ideas should not be followed.

**EXPLANATION:** Several basic flaws here. The initial premise is very general—do we know that, in every case, cooperation is the best strategy for solving a group problem? Obviously, no. Therefore, the conclusion that those six members who don't cooperate have useless solutions is unwarranted. Who knows? Maybe one of the dissenting members had the very best solution to the problem. Consensus is not proof that the group is right or correct. Just because 500 scientists say X is true doesn't mean X is true. This is difficult for some people to understand. (Along with the appeal to authority, consensus is the hardest barrier to logical thinking.)

**PASSAGE:** A small turbine placed in a river, near the town of Arden, is now supplying the town with enough electricity to power ten percent of local homes. However, if more turbines are added, they will result in no further increase of power to Arden.

**EXPLANATION:** This is an example of non-sequitur, and also an illustration of an intentional or unintentional “shock fallacy.” A non-sequitur is a statement that doesn’t follow from what went before. It’s a sudden and irrelevant departure. It makes no sense. If one turbine can provide so much electricity, it doesn’t follow that 15 more turbines will fail to provide more power. Non-sequitur. Even worse, the conclusion is so far from expectation it shocks and freezes thinking. We’re sure this line of reasoning makes no sense, but there it is, in black and white, on the page. We assume we must be wrong. No one would write this garbage if it were really garbage. We must be dense. We must be failing to see something. So we let it go by. We don’t object. We don’t ask for the evidence that 15 more turbines are useless.

**PASSAGE:** I don’t see the slightest reason to believe Tom. He’s a complete fool. Every word he utters sounds like the braying of a mule. He spouts on and on and says nothing. He complains and whines at the slightest provocation. He now wants us to build a little bridge over the river, where it floods in the spring. How crazy can he get? He never runs out of suggestions, and they’re all nonsense.

**EXPLANATION:** This is an attack from start to finish. It barely mentions what Tom is suggesting or arguing for. It’s a familiar illogical strategy: attack the person and ignore what he is actually saying. Sentence one—opinion based on nothing. Sentence two and three—“every word” is a gross generality with no foundation. Draws an empty analogy to a mule. Attacks Tom as a fool, offers no evidence for the accusation. Sentence four—empty generality and attack. Sentence five—continues the attack. Sentence six—the author finally gets around to mentioning Tom’s proposal. Sentence seven—calls the suggestion crazy but offers no evidence to support the accusation. Sentence eight—two vague empty terms, “never” and “always,” and continues to attack Tom.

**PASSAGE:** A new theory about the formation of the universe has been proposed. It has gained very wide support among respected scientists. According to this theory, a cloud of anti-matter collided with a cloud of matter, and from the interaction, stars were created which gave off in energy in pulses. These pulses would result in the on-and-off twinkling of the stars. Researchers have confirmed that all stars do, in fact, have this twinkling action. Therefore, the theory of the collision between matter and anti-matter is correct.

**EXPLANATION:** The second sentence is irrelevant—whether or not the theory is correct, the fact that it is has “wide support among respected scientists” does not constitute proof of the theory. And who is deciding who the “respected scientists” are, as opposed to the un-respected scientists? This is called “appeal to authority,” in which the author substitutes statements from supposed authorities for real proof. The whole succeeding argument in favor of the theory can be boiled down to this: If the theory is true, we will observe that all stars twinkle; all stars do twinkle; therefore, the theory is correct. This is invalid reasoning. The stars could be twinkling because of reasons that have nothing to do with the theory. For example, the twinkle effect is said to be the result of interference between the observer and the stars, an interference which is caused by turbulence in the atmosphere. But the

student does not have to know this to see that the reasoning in the passage is incorrect. Refer back to the rain and the clouds. Here is the same formulation as in the argument above: If it is raining, there are clouds. There are clouds. Therefore, it is raining. INCORRECT.

## CLASSROOM SESSION 4

Tell the class they'll continue to analyze short passages and find their errors. (I've included many passages for this session. As the teacher, you can choose to break up the work into two or more sessions, adding to the length of the Course—or you can just use some of the passages I've included here.)

**PASSAGE:** A doctor in California has developed a unique healing water. Thousands of his patients have been cured of arthritis.

**EXPLANATION:** Vague terms. "A doctor in California." Who is he? "A unique healing water." What is it? "Thousands of his patients." Who are they? How many thousands? Three? Fifty?

**PASSAGE:** The American system of government was derived from Roman law. The Roman Empire crumbled. Therefore, we need a new system.

**EXPLANATION:** Faulty assumption. The American system was derived from several sources, not only the Roman. It's also implied that Rome fell because of its system of law, but no evidence is offered for that statement. And therefore, the conclusion that America needs a new system of government has no merit, because it flows from one false and one unproven statement. Even if the Roman Empire crumbled because its system of law was flawed, that doesn't mean another nation, relying on that system, would apply it in the same way and therefore fall apart.

**PASSAGE:** We're looking for ambitious people. Carl Johnson has that spark. He started off with fifty dollars in cash, bought our program, and now he makes \$100,000 a year. Do you have ambition?

**EXPLANATION:** Useless analogy. Carl Johnson is not the person who might now be buying this money-making program. In fact, we don't know who Carl Johnson is, or if he even exists. If he exists, there is no evidence he started out with fifty dollars or is now making \$100,000 a year. There is no reason given to believe that a person, armed only with ambition and fifty dollars, can buy the program and make a great deal of money. What is the program? We have no clue.

**PASSAGE:** The ancient Roman Empire, through conquests, built itself up into a huge power. The Soviet Union followed this plan and it also achieved tremendous power.

**EXPLANATION:** Faulty assumption. Rome didn't become a power only because it successfully conquered other territories. Likewise, the power of the USSR was not only gained through conquests. Its power, in part, derived from the government controlling its citizens. Is the author implying that power basically comes from conquests? No evidence is offered for this statement. Now we dig deeper: "power" is used in a vague way. What kind of power is being discussed here? What about the power that comes from the right of personal freedom? Or from the free market? Finally, is the author trying to prove a point here? He might be, but we don't know what it is.



PASSAGE: Cave men completely owed their success to the fact that they discovered fire. Later, Europeans used fire, and they, too, became a successful civilization."

EXPLANATION: The author is apparently trying to argue that fire is the key to a successful society. But cave men were not successful only because they discovered fire. And use of fire was certainly not the only reason Europeans became successful. Also, vague term. What does the author mean by "success"?

PASSAGE: Fifty thousand women use our lipsticks. Why is that? Think about it. They love the various colors and the easy applicator. You will, too.

EXPLANATION: Questionable assumptions. Do 50,000 women really use this brand of lipstick? And do they use it because they love the colors and the applicator? No evidence is offered for either statement. Questionable analogy, too. Because many women may use and love this lipstick, does it mean a particular new customer will agree? This is an implied argument based on consensus: if "everyone" likes a product, you will like it as well, so you should go along with the group.

PASSAGE: Intelligence agencies are in the business of collecting facts. The word "intelligence" tells you they are very, very good at their jobs. Therefore, when these agencies disclose something they have discovered, it is always a fact.

EXPLANATION: This foolish argument rests on the vague and shifting definition of the word "intelligence." Just because we have something called an "intelligence agency," we can't assume the people who are working for the agency are all intelligent. And even intelligent people make mistakes. And intelligence agencies don't always disclose "facts" to spread truth. Sometimes they make false disclosures to confuse the enemy.

PASSAGE: Flying an airplane is like swimming underwater.

EXPLANATION: Here we are given a vague analogy. In exactly what respects is flying a plane like swimming underwater? We aren't told. It's a somewhat interesting comparison, but we have no facts to support its use.

PASSAGE: He's been there and done that. He's faced every challenge with courage. He knows how to deal with people. He's a professional.

EXPLANATION: We don't even know what point the author is trying to make. Is he promoting some person for political office? For a new job? The passage is full of vague terms: "been there and done that"; "faced every challenge with courage;" "knows how to deal with people;" "professional". What do they mean? We don't know.

PASSAGE: As a woman involved in the business world for half her life, she has the talent to succeed where others fail. She can spot incompetence a mile away. She created fifty thousand jobs. As mayor, she can pull this city back from the brink.

EXPLANATION: Vague terms everywhere in this passage—"business world"; "half her life"; "talent to succeed where others fail"; "spot incompetence a mile away"; "created fifty thousand jobs"; "back from the brink". No specifics are given.

PASSAGE: We know all these groups have racist tendencies. Their members are advocating an agenda of violence against minorities. The FBI is investigating many of the groups.

EXPLANATION: This is an argument based on vague generalities. Who are "all these groups?" What are their names? And the term, "their members," is also vague. How many members? A majority? A few people? A majority in one group, but not in another? It would also be helpful to know which "minorities" are being referred to. Where is the evidence that any group members are advocating an agenda of violence against minorities? Finally, we are told the FBI is investigating "many" of these groups. How many? Which ones? Are these serious investigations? Has any evidence been uncovered? If the FBI is investigating several groups, is this fact alone a reason to draw conclusions about the groups? An investigation means no bottom-line answers have been turned into criminal charges yet. And there is an appeal to authority in this argument. We are being led to believe that, if an agency is "investigating," something must be wrong with the target of the probe.

PASSAGE: World-famous scholars have rejected the notion that groups of nomads once traveled the trade routes from India to Europe.

EXPLANATION: The entire argument rests on the idea that "world-famous scholars" have an opinion and it must be right. It's a straight-out appeal to authority. We don't know who these scholars are and what they have said exactly or what their evidence is.

PASSAGE: After last night's storm, the city settled down. The budget of the government is teetering on the edge of a hurricane.

EXPLANATION: We have no idea what point the author is trying to make. And "settled down" is a vague term. So is "teetering on the edge of a hurricane." Apparently, the author is trying to make a link between "storm" and "hurricane," but it makes no sense. The paragraph is a non-sequitur. Sentence 2 and sentence 1 don't go together.

PASSAGE: Scientists have discovered they can suspend a person's moral judgment by stimulating a brain region behind his right ear. Directing electromagnetic radiation at this area, which controls morality, makes the person passive about moral crimes.

EXPLANATION: This report on a scientific study looks good on the surface, but it is the omission of information that makes it nearly useless. We don't know what is meant by "moral judgment" here. We don't know what it meant to the researchers. In fact, there seems to be a deception. At first, we might imagine that volunteers in the study, after the treatment, could go out and commit crimes without a flicker of conscience. Later on in the passage, however, it appears the volunteers registered indifference when they were told about crimes other people committed. As with many reports on scientific studies, we aren't told how many volunteers were involved in the study. This is important. A small project with 10 volunteers is much less significant than a project that enrolled 600 volunteers. Also, how long did these "suspended moral judgments" last? Five minutes after the treatment? A day? A month? And what questions or statements did the researchers feed to the volunteers, in order to reach their conclusions about suspended moral judgment? One would like to know.

PASSAGE: New drugs are bringing relief to many depressed people.

EXPLANATION: Sounds hopeful, but it's vague. What new drugs? How long does the relief last? How many depressed people have benefited from the drugs? Where is the evidence that the drugs work well?

PASSAGE: Scientists state they are on the brink of discovering many new facts about how genes cause diseases. These discoveries could lead to a breakthrough in treating everything from insomnia to heart disease.

EXPLANATION: Typical public-relations press release that is made into a news story. It's full of vague terms. On the brink? How close to a breakthrough is that? A month? A year? Ten years? "Many new facts?" What facts? "Could lead to a breakthrough?" Does that mean there is an equal chance the research won't lead to a breakthrough? What diseases could be cured by gene therapy?

PASSAGE: A new outbreak of so-called Pandemic X, in New Jersey, has affected 13 people. They all show symptoms of fatigue and fever. Health officials said tests confirm the patients are infected with Virus X. Their symptoms are not serious, and they are expected to recover in a few days.

EXPLANATION: The first problem occurs with the meaning of the word "Pandemic." Usually, this term refers to an illness that causes severe effects in thousands or millions of people, including many deaths. Here, all we know is that 13 people were affected, and none of them had serious symptoms. So the implication of Pandemic is invalid, based on what we are told. Next, we need to know what tests were run that determined infection with Virus X. All tests are not created equal, in terms of reliability. If the tests turn out to be unreliable, all we are left with is fatigue and fever, which are very general symptoms. They are shared by many people who do not have the same disease. Therefore, lumping people with those two symptoms under one disease-label would be questionable. Finally, what "health officials" claim is not, by itself, acceptable. Assuming statements are correct merely because an

authority says they are is short-sighted. And we don't even know who these "health authorities" are.

PASSAGE: The four people who died in Florida last week were previously healthy. Doctors state it must be a virus.

EXPLANATION: Lots of omitted information here. Even if the four people who died were really previously healthy (and we don't know that they were), on what basis are doctors saying the cause of death must have been a virus? Were tests done? No information on that. Are the doctors merely guessing? Do they automatically say every death they're not sure about is caused by a virus?

PASSAGE: The boy was nine years old when he came down with the flu. After being treated by his doctor, he became aggressive and violent, and was admitted to the hospital. The doctor states that the medicine he gave the boy played no part in the subsequent strange behavior.

EXPLANATION: Appeal to authority. On what basis is the doctor saying the drug didn't have adverse effects on the boy? We don't know. No information.

PASSAGE: Today, actor George Smith went before television cameras and spoke about the accident in which he was driving drunk, on May 15th, and injured a pedestrian on the shoulder of a California highway. "I take full responsibility for my actions," Smith said.

EXPLANATION: There are many public statements in which words are twisted to take on new meaning. In this case, it is the word "responsibility." What does George intend when he uses it? Is he going to pay the hospital bills of the pedestrian he injured? Is he going to stop drinking? Is he going to support the pedestrian's family during the time the man is out of a job? Or does "I take full responsibility" merely mean "I admit it was my fault." If so, that is a distortion of meaning. George's statement is virtually empty.

PASSAGE: Senator Mike James, who was convicted last month for stealing public funds, said today he had made "a serious mistake," and will undergo counseling.

EXPLANATION: This is a non-admission admission. Stealing public funds isn't a mistake. A mistake is an action where a person makes an unintentional error. Legally, stealing is a crime. Morally, it is wrong.

PASSAGE: If the ship is sinking, the passengers are in danger. The passengers are in danger. Therefore, the ship is sinking.

EXPLANATION: Wrong. The passengers could be in danger for a variety of reasons, none of which mean the ship is sinking.

PASSAGE: If you are Ben Franklin, you wear glasses. You wear glasses. Therefore, you are Ben Franklin.

EXPLANATION: Wrong. Obviously, many people wear glasses who aren't Ben Franklin.

PASSAGE: When the sun shines in Miami, there is heat in Miami. There is heat in Miami. Therefore, the sun must be shining in Miami.

EXPLANATION: Wrong. Miami can be hot on a cloudy day.

PASSAGE: The tiger is a predator. X is a predator. Therefore, X must be a tiger.

EXPLANATION: Wrong. There are many predators who are not tigers.

PASSAGE: Climate is changing, and we must change with it.

EXPLANATION: "Climate is changing" is a vague generality. What does it mean? We don't know. Non-sequitur: the second half of the statement doesn't follow from the first. The attempt to be clever and use "changing" and "change" doesn't link the two halves of the statement together. The meaning of "changing" and "change" is not the same in these instances.

PASSAGE: In a heated discussion, Dr. Rex Caldwell stated, "The immune system has nothing to do with what disease is all about. Disease is a condition in which germs attack the body. When those germs are present, we have a disease. It is up to us, as scientists, to describe the disease and name it and treat it."

EXPLANATION: This is a tricky argument. Rex is on thin ice. He is implying that, even if the immune system defends the body brilliantly and kicks out all the germs that are invading it, the mere presence of the germs qualifies the person as having a disease. He is further implying that the presence or absence of symptoms is irrelevant. So a person could be tested and found to have a particular germ in his body, and that would be enough to assert he has a disease, even though he exhibits no signs or symptoms, remains in excellent health, and has a strong immune system. As with so many illogical arguments, the debater is twisting or redefining the ordinary meaning of a word (e.g., disease) to make a point. The doctor is also being vague. First, he says that germs attacking the body equals disease—and then says that germs being present equals disease. Germs can be present and not be attacking.

PASSAGE: Company employees accidentally spilled chemicals in the river, and a minor epidemic broke out.

EXPLANATION: This is a twisted use of the word "epidemic," which ordinarily implies action by germs. Chemicals cause illness by poisoning people.

PASSAGE: Being eligible to vote means the person has done his homework on political issues. He has studied the candidates in great depth. He has made his voice known.

EXPLANATION: The main error here is the misuse of the word “eligible.” Legally, a person becomes eligible to vote by merely reaching a certain age and having citizenship. The author is probably trying to urge people to vote after educating themselves. To make his point, he stretches the definition of “eligible”.

PASSAGE: When we examine the baffling structures the Egyptians built, the pyramids and statues and the Sphinx, we cannot determine how these people engineered them and erected them. Therefore, we are left with only one possible conclusion: other people we know nothing about, perhaps aliens from another planet, who possessed advanced technology, provided the key assistance.

EXPLANATION: The author claims there is no way to determine how the Egyptians built their monuments. He offers no evidence for this assertion. Indeed, there are many researchers who state they know how these structures were erected. Based on his unproven opening statement, the author then goes on to say there is only one conclusion to be made—unknown people with advanced technology assisted the Egyptians. Why should we assume that “we don’t know how the monuments were built” implies “there can only be one possible explanation”? A variant of this strategy is used in many invalid arguments: claim there are several possible answers to a question; reject all of them; then offer a wild and unproven “extra answer” as the only remaining possibility.

PASSAGE: Life began billions of years ago, in pools of amino acids. There is no other scenario that makes sense.

EXPLANATION: This is an attempt to express the opinion of many scientists through shortcutting the argument. At least several other scenarios could make sense. Here is a similar shortcut argument. “The laws of physics can only be understood in one way: they are descriptions of how the universe works. To think these laws were designed is ridiculous.”

PASSAGE: Two articles appear side by side in a newspaper. The first article explains that a group of men in New Mexico are being prosecuted for possession of weapons of mass destruction (WMD): hand grenades, cases of bullets, and two armor-piercing shells. The second article recounts how UN weapons inspectors failed to find WMD in Iraq, prior to the US invasion.

EXPLANATION: This one is simple. Changing definition of “WMD.” To show the illogic of this situation, suppose UN weapons inspectors in Iraq declared, “We’ve found them! WMD! They have grenades here, and artillery, and warehouses full of bullets.”

PASSAGE: The authors of the Constitution were, above all, concerned about the future of the country. Today, we see this concern mirrored in the work of Congress, as new bills are being proposed that would increase taxes, so that nuclear power plants can be built.

EXPLANATION: Whether you favor nuclear power or not, the author here is trying to use the vague word “concern” and make a link between the Founders and today’s government legislators—as if the same meaning of “concern” applies in both cases. He offers no evidence to support this link. There is reason to assume the Founders’ concern for the future equals today’s legislators funding nuclear plants.

PASSAGE: All children are bad. Jim is a child. Therefore, he is bad.

EXPLANATION: This is an example of reasoning correctly from a false premise. If all children are bad and Jim is a child, then, indeed, Jim is bad. But all children are not bad. If a person can slip in a false premise at the beginning of an argument, he can correctly reason his way to a false conclusion.

PASSAGE: The accused defendant lives twelve blocks from the scene of the robbery. On the night in question, he wasn’t at home. He drives a pickup truck. When he was a boy, he was arrested for stealing an apple from a stand. He knows Mr. Minton, whose house was robbed. Witnesses state they saw a pickup truck in the neighborhood three hours before the robbery. Can there be any doubt that the defendant stole Mr. Minton’s paintings?”

EXPLANATION: This is an argument that focuses on weak circumstantial evidence. Look at each piece of evidence separately, and you’ll see there is no smoking gun. The author is attempting to pile up the pieces and make it look like the defendant must have committed the robbery. In this case, the evidence doesn’t come close to nailing down that conclusion. Every circumstantial argument must be judged on its own terms.

PASSAGE: Genetically modified (GM) food is safe for human consumption. There are many reasons for stating this—but above all other factors, the US government has declared that GM food does not need to have a label on it warning the consumer—or even telling the consumer that the food product has been genetically modified.

EXPLANATION: This argument illustrates the most difficult barrier for many students who are studying logic. This is an argument based on appeal to authority. If a “recognized authority” says X is true, it must be true. And that is the end of it. No other information or thought is necessary. Of course, this is a fallacy. All authorities are not created equal. It is evidence and not authority that makes the difference in evaluating an argument. The author of this argument also states there are “many reasons” for concluding that GMO food is safe, but he doesn’t mention what they are.

PASSAGE: Our state representative came to town. He told us we should vote to allow the construction of a new dam that would divert the river from nearby farms. He must know what he’s talking about. Why would he mislead us? He represents us. If you disagree with him, you’re foolish.

EXPLANATION: Another argument based on appeal to authority. Where is the evidence supporting the building of a new dam?

PASSAGE: The theory of XYZ is based on five thousand pieces of data stored on computers at Smith University. We now know that this collection of data has been erased. Dr. Phillip Marsden stated, "Despite the unfortunate loss of data, theory XYZ is still valid, and all legitimate scientists know this. The evidence in favor of the theory is overwhelming."

EXPLANATION: Here is another argument based on authority. Dr. Marsden tells us everything is all right. Therefore, it must be. Furthermore, Dr. Marsden is citing other vague authorities, in an effort to strengthen his case. Who are "all legitimate scientists?" What is this evidence that is overwhelming? We are being told to ignore the fact that vital data have been erased—it doesn't matter. Just listen to the authorities.

PASSAGE: There is no way we can know whether Germ Z will infect a billion people. We don't have the technical background to make a judgment. So we must rely on what the experts are telling us. This is a terrible threat. We must wipe out Germ Z. The government must spend \$50 billion on the program to defeat this germ.

EXPLANATION: Another argument based on appeal to authority. The experts know what's right and we must follow them. Spend \$50 billion. It doesn't matter. They know what they're talking about.



## CLASSROOM SESSIONS 5 AND 6

You will analyze Core Passage 1, in the way I described, above, in the Introduction. Remember, my analysis of Core Passage 1 is in the MP3 audio file entitled "*LAC core passage 1.mp3*".

### CORE PASSAGE ONE:

Senator Graves has been a devoted public servant for 30 years. He's served four terms in the US Senate, during which time he chaired the Budget Committee and was a key member of the Armed Services Committee. He has the experience to be the next vice-president of the United States.

Senator Graves believes that the Constitution is a living document. Since he will undoubtedly have significant input on the next president's appointees to the Supreme Court, we can be sure we will get judges who understand the difference between America in 1776 and America today. We are facing enormous problems our forefathers never envisioned, and we need judges who can reinterpret the living Constitution to fit our times. Senator Graves also understands that the original spirit of our most cherished document must be preserved.

He and I are both historians, and we share the knowledge that the Founders were, at the root, generous men. They wanted to create a government that was concerned with people's needs. In our present day, those needs are greater than in any other moment in our history.

America is trailing behind other enlightened democracies in the matter of caring for its citizens. Senator Graves is a committed humanitarian. He is eager for this nation to take its place along side other free societies as stewards of the people.

Remember when you were in school and studied the Roman Empire? That great nation lost its power because its system of laws was corrupted. Equality was forgotten. We have a chance in the coming election to renew our laws, to create new legislation that will make equality more than an empty slogan. Senator Graves is on the cutting edge of that movement.

During his Congressional career, he has pioneered the funding of new medical-research initiatives and the restructuring of the national missile-defense network. Senator Graves has reached across the aisle to work with colleagues on programs essential to our progress in the 20th and 21st centuries. In that regard, he has an impeccable record. If we are to avoid the massive gridlock that now threatens to divide and polarize us, we need candidates who have the experience to bridge the gap and secure bipartisan cooperation, particularly in the area of the economy. Senator Graves is such a candidate.

###END CORE PASSAGE ONE###

## CLASSROOM SESSIONS 7 AND 8

You will analyze Core Passage 2. My analysis of Core Passage 2 is in the MP3 audio file entitled "*LAC core passage 2.mp3*".

### *CORE PASSAGE TWO:*

The universe came into being as a result of the Big Bang. Although scientists have not been able to pinpoint the exact spot where the massive explosion took place, they state that the Big Bang proves the universe is expanding outward, from the heart of the ancient event. In the early and mid 20th century, having observed this expansion many times, researchers were puzzled about the cause, but with the proposal of the Big Bang, that cause was found. In a real sense, the Big Bang is still happening.

Researchers also point out that the formation of atmospheres around planets is the indirect result of the Big Bang. The creation of elements and their combination were a natural consequence of the Prime Explosion, and in some case that combination resulted in oxygen-rich envelopes that allowed life to gain a foothold in planetary environments. In other cases, atmospheres consisting of more toxic elements came into being, and therefore unusual types of life forms might have evolved.

"A theory like the Big Bang rarely comes along," says Dr. Rolf Wingaard, physicist at the Dolsen Laboratory in the Netherlands. "It explains so many phenomena, so many facts. It ties together so many loose ends. The growing consensus in favor of the theory proves it wasn't just a wild idea. When it was first proposed, it might have sounded like a fantasy or a piece of science fiction, but it has turned out to be one of the sturdier workhorses of our profession."

Alan Golsen, a researcher at Shore Sciences, a laboratory in Long Island, New York, sounds a cautionary note: "Theories tend to have a certain lifespan. They are useful up to a point, and then a new theory enters the field that explains even more data, and so it replaces the old idea. You never know what's around the next corner."

###END CORE PASSAGE TWO###

## CLASSROOM SESSIONS 9 AND 10

You will analyze Core Passage 3. My analysis of Core Passage 3 is in the MP3 audio file entitled "*LAC core passage 3.mp3*".

### *CORE PASSAGE THREE:*

My father is a policeman. He tells me about the people he deals with. Some of these people have strange beliefs. They refuse to fly on airplanes. They light candles every night on their lawns. They sing songs. So who can trust any advice they give, especially on the decontamination of the water supply? Do you know what I mean? This group was trying to get a law passed about how to purify water! It's like, what could Mr. Jones possibly know about investments? He's a tire salesman. Or Mrs. Borowski. She's a mother of four. She has to be spending all her time raising the kids and cleaning up after them. So now she wants to tell us about safe driving? And her son, Bob. He's a baseball player. He's got some crazy ideas about astronomy. He never studied the subject in college. He probably never went to college. This is what I'm trying to say—real people, not these phonies, have an inner wisdom. When it comes to movies, for example, they vote with their money. They go to the theaters when the word gets out that there is a hot movie in town. When an election campaign gets underway, real people see through the petty arguments, and they choose the best candidate for office. It's all about the inner wisdom. But to get that wisdom, you have to have a good background. You can't be some moron who has no training in the subject you're talking about. If you have the education, then you can develop the inner wisdom, and you have the right to make intelligent comments about a particular subject. But you can't be part of some group that has a weird agenda. You can't be in one of those groups that wants to take the country back to 1776, when there were only two million people living in the colonies. That was then and this is now. Some people just live in the past. They're stuck in old ideas. We need new ideas. For example, we need to develop new science about genes, so we can cure diseases. Are you going to tell me we should eliminate all gene research just because Thomas Jefferson never heard of a gene? We should pray for a cure, instead of using adult stem cells?

###END CORE PASSAGE THREE###

## CLASSROOM SESSIONS 11 AND 12

You will analyze Core Passage 4. My analysis of Core Passage 4 is in the MP3 audio file entitled "*LAC core passage 4.mp3*".

### CORE PASSAGE FOUR:

FOX News and MSNBC are two sides of the same coin. They stake out extremist positions and then they filter all the news through those viewpoints. It's a tragedy, really. All these news networks are taking the country down the drain. The worst thing is this: when a really important story comes along, the networks don't report it. They are too busy touting their political positions.

Here is a case in point. The SXB Virus was created in the Johnstone Lab in Maryland, in 1985. We know that lab was doing extensive research on combining viruses in the 1950s. Several scientists from Japan and Germany had been brought there by the US government after World War 2, instead of being prosecuted for war crimes. The first person who came down with SXB Disease, in 1992, lived in Baltimore, a mere 20 miles from the lab. His mother had worked, for a year, as the personal assistant to one of the German scientists, Albert Hafer. And several US presidents allowed the lab to operate in secret for years, even though there were laws on the books forbidding artificial combining of viruses.

Who was Albert Haber? The son of a German official, he headed up a research department within the Nazi government until 1945, when he was brought to the US. Haber's specialty was bio-warfare. In 1984, one year before the SXB virus was created at Johnstone Labs, a paper written by Haber was made public, after a Freedom of Information Act request was filed with the Department of Defense.

In the paper, *Virus Combination: Dream or Reality*, Haber wrote: "What would happen if scientists could take the most dangerous features of several viruses and bring them together in one synthetic micro-organism? Could we literally invent a Super Germ? Would this germ have the ability to attack the immune system or the brain? Could we arm the virus so it would cause great damage to one part of the reproductive process? I believe we are close to being able to do these things."

Haber was killed, in Washington DC, on July 23rd, 1992, just one month after Ronald Pastor became the first person in the US to contract the SBX virus. Haber's car ran off the road in a lonely area outside Washington DC.

And what of Ronald Pastor? He was diagnosed with viral flu by a Washington doctor, Melvin Foss who, a year later, retired and moved to Germany. Pastor remained ill for over a year and finally recovered his health in Arizona. In 1995, Arizona experienced an outbreak of a mysterious disease. Twelve people in the Phoenix area were admitted to two area hospitals, where doctors were puzzled by their symptoms, which included shortness of breath and numerous unexplained skin rashes.

*###END CORE PASSAGE FOUR###*

## CLASSROOM SESSIONS 13 AND 14

You will analyze Core Passage 5. My analysis of Core Passage 5 is in the MP3 audio file entitled "*LAC core passage 5.mp3*".

### CORE PASSAGE FIVE:

Karl Marx had many ideas about the role of government and the future of society. Here are some of those ideas:

The history of free enterprise is the history of the master-slave relationship. The master imposes his will on the oppressed. He obtains the most work at the lowest wage. He glorifies himself and subjugates his workers. The only solution to this situation is the destruction of the root, which is private property. All private property must be abolished, and it must pass over to a centralized power, which is the government. Through central planning, the government will, for the first time in history, establish equality. No one will rise higher than another. Property is a crime. It is a fabrication, because when a person dies, he doesn't take his property with him. He never did own it. He only usurped it through force and through laws which favored him. The oppressed masses have no other outlet for freedom than legislated and enforced equality. The government will provide this equality. Government will allocate all jobs and all functions, so that the fruits of production will be distributed to all people. Eventually, because of the inner core of good will in the human being, centralized power will wither away, and equality will be a natural thing. No one will own anything. Everything will be shared. Personal freedom was never a reality. It was always a doctrine that favored the rich and the powerful. Therefore, it was an illusion. You do not have the right to choose your life or your future. Under a just system, these matters will be decided for you by a government dedicated to central planning, for the good of all.

Marx predicted that the economies of the Western industrial nations would break down, owing to their common practices that divided the rich classes from the poor. Over the last 20 years, this has, in fact, been happening. For example, in the United States, the recent collapse of mortgage-derived investments has led to widespread unemployment. This is a sign that free-market capitalism cannot survive without Central Planning.

The means of production and the fruits of production must be placed in the hands of governments, and those governments must be separated from all corporate interests. Governments need to assume power over all production of goods—and then distribute those goods evenly throughout the population.

When that day comes, we will see a rebirth of faith in the economy, and wealth will truly arrive.

Do the names Martino, Blessing, Solstrom, Hardy, and Wells mean anything to you? They are leading economists in their countries, and they are recommending exactly what I am describing to you: the prescriptions of Karl Marx. A new consensus is

building internationally. It signals the end of capitalism and the beginning of true freedom, in which service to others is the keynote of human action.

*###END CORE PASSAGE FIVE###*

## CLASSROOM SESSIONS 15 AND 16

You will analyze Core Passage 6. My analysis of Core Passage 6 is in the MP3 audio file entitled "*LAC core passage 6.mp3*".

### *CORE PASSAGE SIX:*

The FDA is the federal agency responsible for certifying medical drugs as safe and effective before releasing them for public use.

Today, Melanie Diamond, an FDA official, spoke with the Washington Post, acknowledging that Siruxe, a drug used to treat arthritis, has just been taken off the market after reports of at least 9,000 severe reactions in patients—including heart attacks and strokes.

"Before drugs are given our seal of approval," Diamond said, "they have been tested on a relatively small number of people. After approval, they're given to millions of people. So the number of adverse reactions sometimes climbs. It can be difficult to predict the effects a new drug will have."

Diamond stated that the FDA's record in the past has been "astonishingly good."

When questioned about which FDA doctors actually approved Siruxe, Diamond said that, although the list of eight physicians included two who owned stock in Macron, the company that manufactures Siruxe, "there was no conflict of interest."

"If we had to stop using all doctors who own stock in drug companies or have taken payments from drug companies for lectures or consulting, there would be no one left to approve new medicines," she said.

"You have to understand," Diamond pointed out, "these physicians are honorable people. Foremost in their minds is the issue of protecting the public."

In recent years, criticism of the FDA has increased. It seems that various consumer groups have taken it upon themselves to try to smear the reputation of this federal agency.

What is their hidden agenda? Are they trying to improve their visibility through media exposure? Are they in the pockets of lawyers who are so fond of suing drug companies?

The US has the finest healthcare system in the world. Constant attacks against the FDA and other medical organizations can only erode public trust in doctors, hospitals, and government agencies that serve as watchdogs to ensure our medical system functions at a high level.

Does protection of free speech extend to emotional outbursts against doctors and drug companies? Can these crude criticisms be allowed to continue? Or should we put a lid on such efforts to undermine our precious way of life?



*###CORE PASSAGE SIX###*

## CLASSROOM SESSION 17

### FINAL EXAM

Below, there is a passage. With a time limit of 90 minutes, the student writes at length about the logical flaws in the passage.

The student is not required, at this level, to give these flaws names or labels.

The teacher wants to know whether the student can attack a passage he/she has never seen before—and without assistance, discover the logical problems/errors inherent in it.

This is a far better method than multiple-choice, true-false, or fill-in-the-blank.

The teacher gives a grade based on several standards: how deep did the student go in uncovering flaws in the passages; how accurately did the student pinpoint each flaw; how specific was the student in his/her description of each flaw.

Before the exam, the teacher must tell the students that vague answers are not good answers. For example, it's not enough to write about a passage: "It was too general." "The reasoning was wrong." "The whole thing didn't make sense." Be specific.

#### *THE FINAL EXAM PASSAGE:*

First of all, Governor Martin supports this new idea. He is the most popular governor in Arizona in the last hundred years. He works for the people. He would never recommend something that would harm the citizens.

If you people here in Phoenix haven't been watching the news, here is the new idea. The state government is going to own 6% of many companies that do business in Arizona. "Six percent isn't very much," Governor Whitten states. "It's actually small."

We have asked a special task force of experts to review this plan, and they have turned in their report. They agree this is a brilliant idea.

Not only that, other experts have been brought in from universities all over the state, and they, too, state that the new plan is a good one.

Of course, we have some opponents out there who are trying to attack us. They claim this plan will force many companies to close down and go out of business. Our opponents are making a great deal of noise. They are trying to convince you this is a bad idea. Who are these opponents? They are people who don't know the first thing about economics or business. They are screaming their heads off in a rude manner. That should tell you they have nothing to say. If they had something important to contribute to this debate, they would be polite. They would be reasonable.

My friends, we are in a new time, and a new time calls for new ideas. Many new ideas. The plan we have is going to be good for the state of Arizona.

In these times, more and more people are recognizing that government needs to have a greater say in how we do business. Government can help companies by owning a piece of them.

The separation of government and business was never a good idea. It was an emotional reaction to the fact that England was charging the 13 colonies a tax, and the early colonists wanted to get England off their backs. And that happened during the American Revolution. But now things are different. Companies, businesses, and corporations need government as a partner.

Look at China. It is the most successful economy in the world right now. In China, the government has the final say on all businesses. The government owns many companies.

Do we want to be successful, or do we want to go down the drain? It's that simple. Either we succeed or we fail.

If the state government of Arizona owns 6% of many companies that do business here, things will change for the better. Government is a powerful ally. It can help businesses grow.

Think about this. Many of you want government to do more for you. You have needs, and you want government to help you satisfy your needs. Well, if the state government owns 6% of many companies that do business here, government will make money. A great deal of money. And then government can spend that money giving you what you want.

*###END THE FINAL EXAM PASSAGE###*

## **EXPLANATION OF THE FINAL EXAM PASSAGE—FOR THE TEACHER'S USE IN GRADING THE EXAMS**

In the first paragraph, we have an appeal to authority, Governor Martin. If Martin says the new idea is good, it must be good. Is Martin really the most popular governor in the last hundred years? No evidence is presented to support that claim. "Works for the people" is a vague phrase. What does it mean? We don't know. We also don't know what "harm the citizens" means. Vague. Is it really true that Martin would never recommend something that would harm the citizens? We don't know.

In the second paragraph, we are told that 6% isn't very much. It's small. Really? We have no evidence for this. Would business owners feel taking 6% of their company away was a minor issue? And we have another appeal to authority. The governor says 6% is small, so it must be.

In the third paragraph, we have another appeal to authority, the special task force, who claims the 6% plan is brilliant. Are we told why they think it's brilliant? No. We don't even know who the experts are. More vagueness.

In the fourth paragraph, we have a repeat of all the problems in the third paragraph. Appeal to authority. No evidence as to why these other experts think the 6% plan is great. Same vagueness. We don't know who these other experts are.

In the fifth paragraph, we see an example of attacking the opponent instead of examining what the opponent is saying. Also, no mention of who the opponents are. More vagueness. They are accused of knowing nothing about business. Vague generality. The opponents are attacked because they are loud and rude. Is this true? Are they loud and rude? We don't know. And people can be loud and still have logical arguments. Of course, this isn't mentioned. The author argues that if these opponents had something worthwhile to say, they would be polite and reasonable. Really? There are many examples of rational people presenting rational arguments in a passionate and not-polite way. Finally, the author says opponents of the new plan claim many companies will go out of business if the government takes 6% ownership. The author doesn't bother to comment on this claim. He ignores it.

In the sixth paragraph, we have much vagueness. Why and how is this a new time? No explanation. "A new time calls for new ideas." This sounds nice, but what exactly does it mean? We aren't told. Then the author simply asserts that the new plan is good for the state of Arizona, but he doesn't offer evidence. He doesn't explain what "good for Arizona" means.

In the seventh paragraph, we have a combination of a vague statement and an assertion not backed up by fact: Who are "more and more people"? What does "a greater say" actually mean? And where is the evidence that more people want government to have a say in how companies do business? In fact, what does that even mean? What kind of say should government have in how companies do business? We aren't told. Government can help businesses by owning a piece of

them? Where is the evidence for that? How can governments help? By dictating terms to businesses? The specifics on how government will help businesses aren't here. It's completely vague.

In the eighth paragraph, we have several bald assertion unsupported by evidence. 1) The separation of government and business was never a good idea. 2) During the American Revolutionary period, demanding separation was just an emotional reaction to the British tax. 3) Now things (what things?) are different. 4) Companies need government as a partner. None of these assertions are backed up by any evidence. Since evidence isn't presented, the effort to "prove" separation of business and government was a bad idea by "explaining" how it started in the American Revolution (an emotional reaction) doesn't go anywhere. It falls flat.

In the ninth paragraph, an argument is made that China is the most successful economy in the world because the government owns many companies and has the final say on what all businesses do. First, where is the evidence that China is the most successful economy in the world? And where is the evidence that its success comes from government action or ownership or influence? Nowhere to be found. Do we have a chance to see what companies the Chinese government owns, so we can find out how successful they are, and why? No. "Many companies" is a vague term. Another vague term is "final say". How exactly does the Chinese government exercise that "final say"? No idea.

In the tenth paragraph, a vague analogy is being drawn between China and Arizona. Because of the errors in the previous paragraph, we really know nothing about the role of government in China's economy, so the analogy is useless. The tenth paragraph implies Arizona can only be successful if the new plan is followed—but no evidence to back that up is presented. And success and failure aren't defined—we are being told it's a black or white situation: success or failure. This paragraph is a brief polemic, an attempt to persuade with a warning, but no real evidence.

In the eleventh paragraph, we have unsupported assertions and vague terms. Government 6% ownership will make things change for the better. Where is the evidence? And what things will change for the better, and how? What does "powerful ally" mean in specific terms? How can government help business grow? No evidence, no support, no specifics.

In the twelfth and final paragraph, we have more vague terms. "Do more for you"—what exactly does that mean? "Many of you"—how many? "You have needs"—what needs? "Government can spend that money giving you what you want"—but no specific programs are mentioned. No mention is made about what people specifically want—new cars, houses, vacations, TV sets, cell phones? And on top of all of this, where is the evidence that government is supposed to give people what they want? Was that written somewhere in the Constitution? No. An argument needs to be made for this sort of interpretation of the role of government, but no argument is made.

## **CLASSROOM SESSION 18**

After grading the exams, the teacher goes over the passage in great detail with the class. This is a very important classroom session. Much learning can occur, as the students see things they missed. They realize how much detail is involved in analyzing a passage.

## **BACKGROUND FOR TEACHERS:**

### **SOME LOGICAL FALLACIES AND THEIR DESCRIPTIONS**

Vague, faulty, or unproven generalization---a statement that covers a wide range and cannot be supported.

Omission of relevant information---for example, an argument may look solid, but information that would destroy it or support it is not included.

Reasoning by faulty analogy---what the arguer is trying to prove is vaguely similar to another situation, but the comparison doesn't strengthen or establish his case.

Reasoning by attacking a person---instead of trying to reject what a person is saying, an attempt is made to attack or discredit the person.

Questionable or incorrect basic assumption (which is sometimes hidden)---an entire argument rests on an initial statement whose truth is in doubt.

Faulty deductive process---whether the foundation stones of an argument are true or false, the reasoning process itself is carried out incorrectly.

Correlation, not causation---two events or situations happen at the same time or side by side, but it is wrongly asserted that one event or situation therefore caused the other.

Non-sequitur---during an argument, a statement that has nothing to do with the argument is suddenly introduced.

Appeal to authority---instead of laying out the substance of an argument, a person claims his argument must be valid, solely because some presumed authority figure says it is valid.

Scanty circumstantial evidence---peripheral, somewhat connected statements are made to clinch an argument, when, in fact, these pieces of information are merely suggestive, and not definitive.

Shifting definitions---during an argument, the meaning of a key term is changed, causing confusion rather than creating proof.

Incorrect definition---a term in an argument is defined incorrectly, leading to a useless and senseless conclusion.

Vague definition---a term in an argument is used in such a vague way that the argument makes no sense.

Assuming what you are trying to prove---the initial statements of an argument amount to a bald assertion that the argument is already decided; and then the argument continues, as if it is really trying to prove its case, when it isn't.

*###END OF TEACHER'S MANUAL###*